

इंटरनेट

मानक

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Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 11172-1 (1985): Recommendations for tool shanks for numerically controlled machine tools (tool stationary type): Part 1 Cylindrical shanks [PGD 32: Cutting tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

RECOMMENDATIONS FOR TOOL SHANKS FOR NUMERICALLY CONTROLLED MACHINE TOOLS (TOOL STATIONARY TYPE)

PART 1 CYLINDRICAL SHANKS

1. Scope — Covers the dimensions and requirements of tool shanks of adaptors with cylindrical shanks, required for mounting on numerically controlled machine tools (tool stationary type).

1.1 General arrangement of components and types of tool adaptors of cylindrical shanks (tool stationary type) for numerically controlled machine tools are given in Appendix A.

2. Dimensions and Tolerances — Shall be as per Table 1.

3. Material — Alloy steel having a tensile strength not less than 800 MPa in the core after case-hardening.

4. Hardness — The hardness shall be 590 to 670 *HV* after case-hardening in the areas specified by long chain thick lines in the figure under Table 1.

5. General Requirements

5.1 Tolerance on dimensions without specified tolerance shall be of class 'medium' as per IS : 2102 (Part 1)-1980 'General tolerances for dimensions and form and position : Part I General tolerances for linear and angular dimensions (*second revision*)'.

5.2 The shanks shall be manufactured in one piece and shall be free from cracks, burrs and other manufacturing defects.

5.3 Mounting detail for these shanks are given in Table 2.

6. Protective Coating and Packing

6.1 Each shanks shall be covered with a suitable rust proofing material and wrapped in a non-absorbent paper.

EXPLANATORY NOTE

In the preparation of this standard considerable assistance has been drawn from VDI 3425 Part 2-1972 'Numerically controlled machine tools standard tool systems for lathes — General' tool systems cylindrical shaft', issued by the Association of German Engineers.

Adopted 15 May 1985

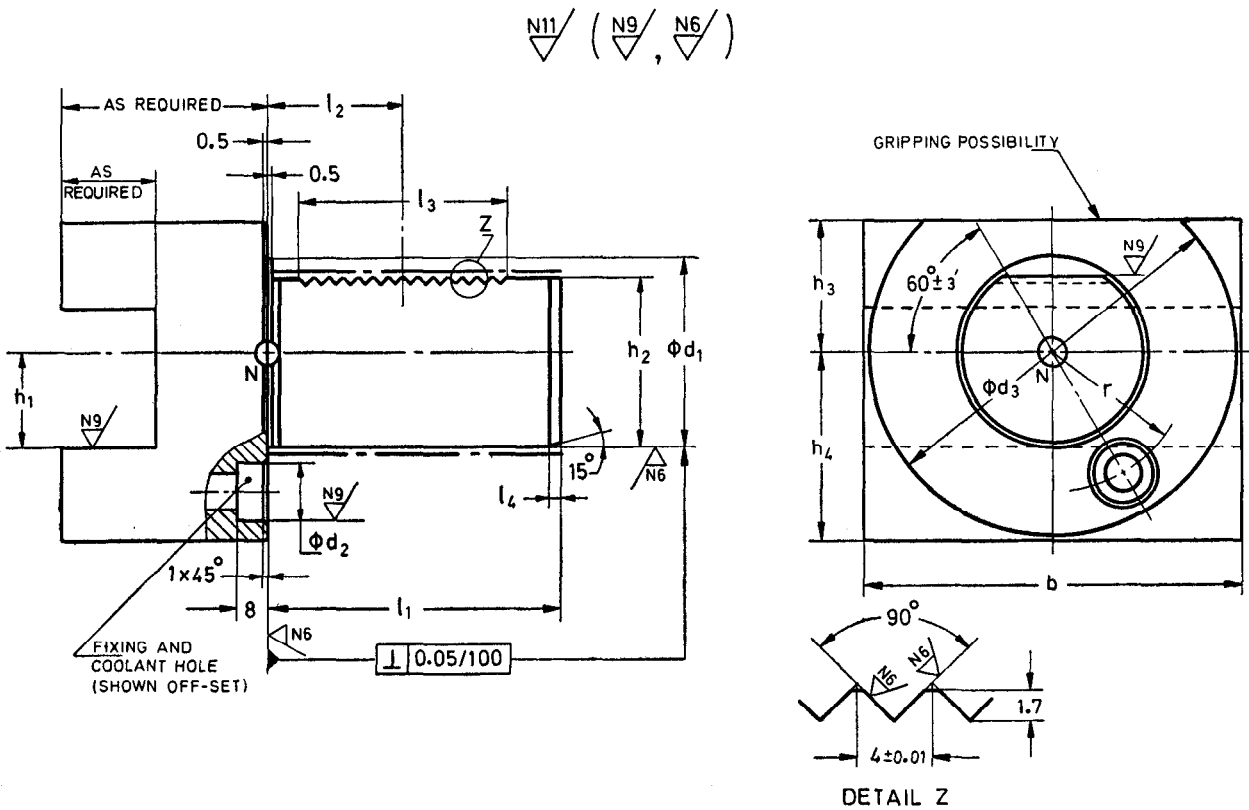
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TABLE 1 DIMENSIONS OF TOOL SHANKS OF ADAPTORS WITH CYLINDRICAL SHANK

(Clause 2)

All dimensions in millimetres.



Nominal Size h ₁	b†	d ₁ h6	d ₂ H8	d ₃	h ₃ ±0.05	h ₃ * Min	h ₁ †	r ±0.02	l ₁ Max	l ₂ -0.25 -0.35	l ₃ Max	l ₄ Max
16	70	30	14	68	27	28	35	25	55	30	48	2
20	85	40	14	93	36	32.5	42.5	32	63	30	48	3
25	100	50	16	98	45	35	50	37	78	36	56	3
32	125	60	16	123	55	42.5	62.5	48	94	44	56	4
40	160	80	20	158	72	55	80	65	124	60	80	4

*Fixed dimension for tool adaptors for autochange; otherwise Max h₃.

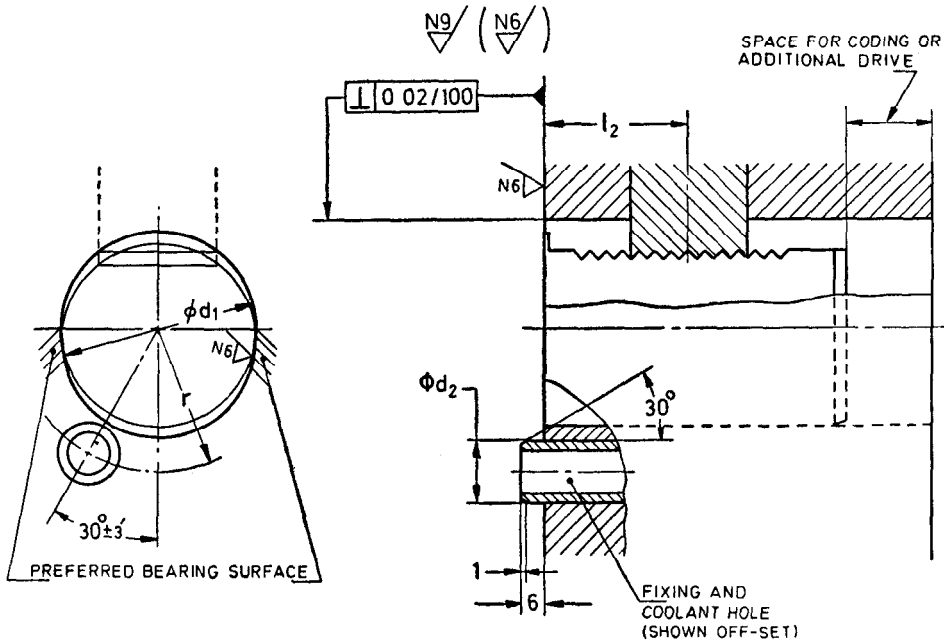
†Preferred dimensions for ensuring interchangeability.

N Tool reference point.

The portion to be case hardened is shown with long chain thick lines.

TABLE 2 MOUNTING DETAILS FOR CYLINDRICAL TOOL SHANKS
(Clause 5.3)

All dimensions in millimetres.



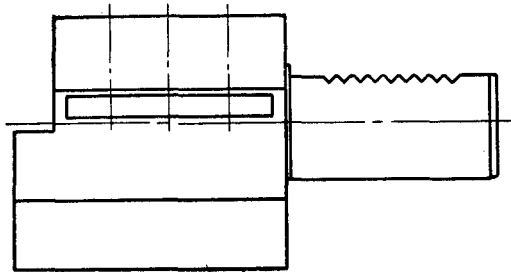
Nominal Size *h1	d_1 H6	d_2 Max	l_3 ± 0.05	r ± 0.02
16	30	13.95	30	25
20	40	13.95	30	32
25	50	15.90	36	37
32	60	15.90	44	48
40	80	19.90	60	65

*For nominal size h1 referred Table 1.

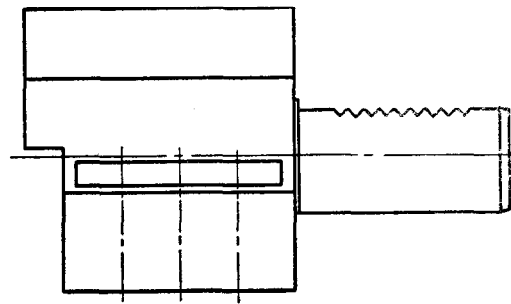
APPENDIX A

(Clause 1.1)

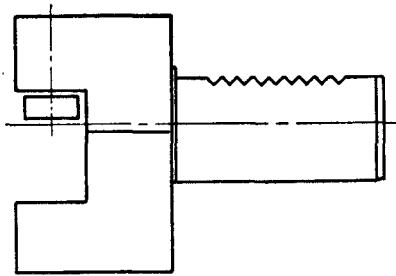
GENERAL ARRANGEMENT OF COMPONENTS AND TYPES OF TOOL SHANKS OF ADAPTORS WITH CYLIDRICAL SHANKS (TOOL STATIONARY TYPE) FOR NC MACHINES TOOLS



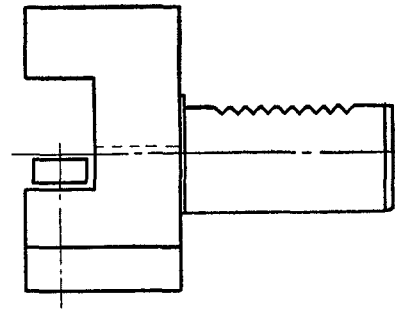
AXIAL TOOL ADAPTOR



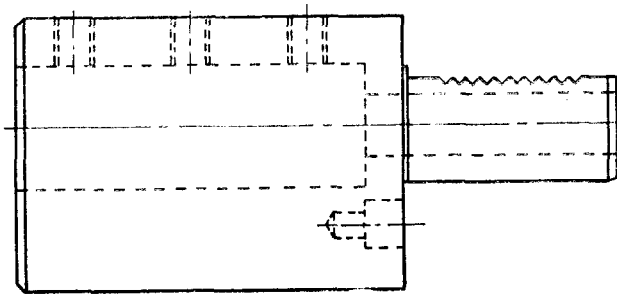
AXIAL TOOL ADAPTOR



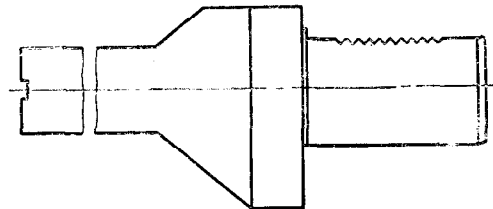
RADIAL TOOL ADAPTOR



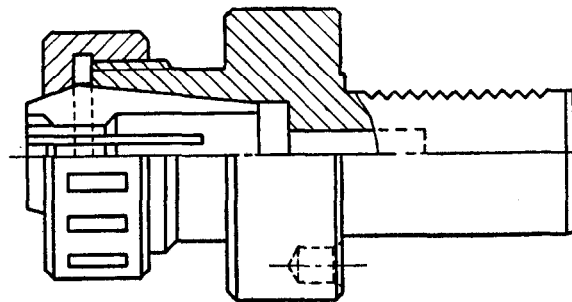
RADIAL TOOL ADAPTOR



PARALLEL SHANK ADAPTOR

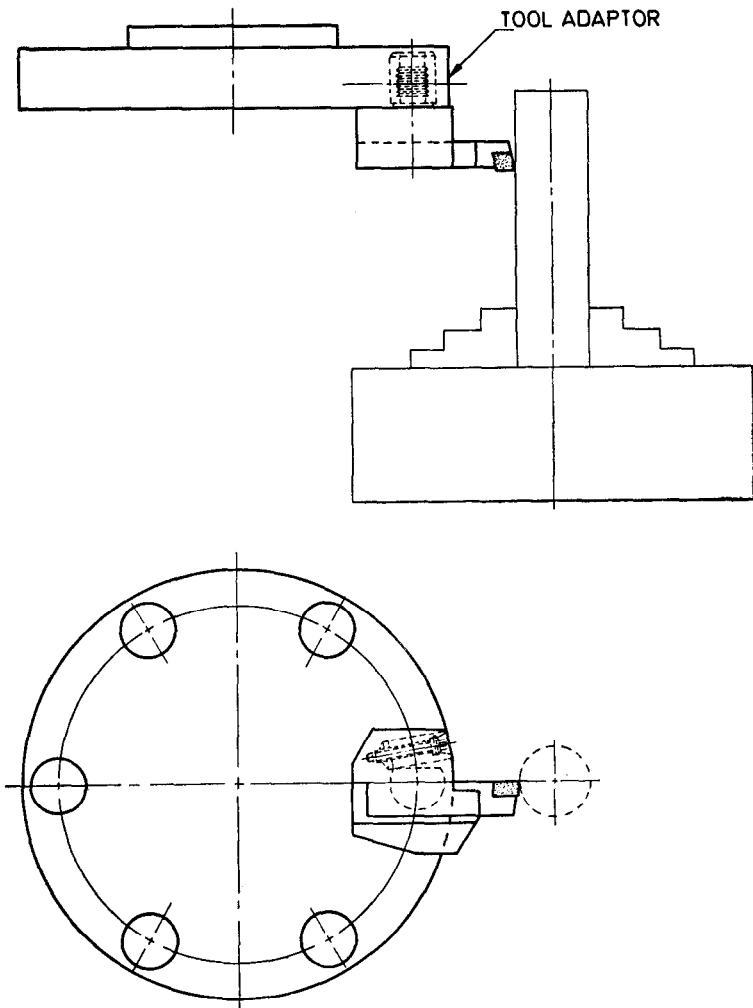


BORING HEAD ADAPTOR

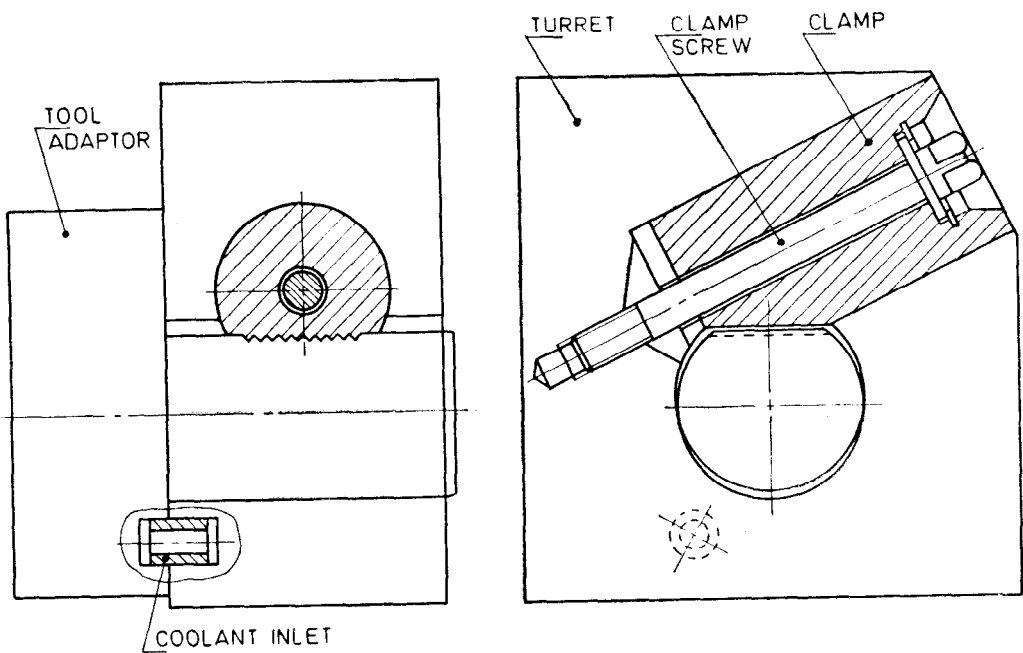


COLLET CHUCK

APPENDIX A — (Contd.)



GENERAL ASSEMBLY



TOOL HOLDER ASSEMBLY

AMENDMENT NO. 1 APRIL 1989

TO

IS:11172(Part 1)-1985 RECOMMENDATIONS FOR TOOL
SHANKS FOR NUMERICALLY CONTROLLED MACHINE TOOLS
(TOOL STATIONARY TYPE)

PART 1 CYLINDRICAL SHANKS

(Page 2, Table 1, col d₃) - Substitute '83'
for '93' against nominal size 20.

(EDC 45)

Reprography Unit, BIS, New Delhi, India